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10/775,025

02/10/2004

Jin-hun Kim

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EXAMINER

CHAUDRY, MUJTABA M

ART UNIT

PAPER NUMBER

2133

DATE MAILED: 12/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/775,025

Applicant(s)

KIM, JIN-HUN

Examiner

Mujtaba K. Chaudry

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 2/10/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 1-23 are presented for examination.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. The priority date granted is February 11, 2003.

Information Disclosure Statement

The reference listed in the information disclosure statements (IDS) submitted February 10, 2004 was considered. The submission is in compliance with the provisions of 37 CFR 1.97. Form PTO-1449 is signed and attached.

Oath/Declaration

The Oath filed June 29, 2004 complies with all the requirements set forth in MPEP 602 and therefore is accepted.

Drawings

The drawings submitted February 10, 2004 are accepted.

Specification

The specification filed February 10, 2004 is objected to because:

- On page 6, paragraphs 0023 and 0024 recite various versions of “computer readable medium”. It is suggested to applicant to use uniform language throughout the specification. It is not clear if Applicant intended “computer readable medium”, “computer readable recording medium” and “computer readable recording media” to be all the same. Examiner presumes that they are all the same.

Appropriate correction is requested.

Claim Objections

Claim 7 is objected to because of the following informalities:

- In line 2, “checking a checksum” should be “checking the checksum” to create proper antecedent since claim 7 depends on claim 1.

Appropriate correction is requested.

Claim 10 is objected to because of the following informalities:

- In line 3, “a microcomputer that performs the program” should recite “a microcomputer that executes the predetermined program”.

Appropriate correction is required.

Claims 22 and 23 are objected to because of the following informalities:

- The claims recite “computer readable medium” and “computer readable media” and it is not clear if they are the same as “computer readable recording medium” and “computer readable recording media”. Applicant is urged to use uniform language

Art Unit: 2133

throughout the claims to avoid confusion. Examiner presumes all four refer to the same thing.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 2-9 depend from independent claim 1 and inherently include limitations there in and are rejected as well.

Claim 1 recites:

A method of calculating and writing a checksum in a memory, comprising:

- *calculating a first checksum by reading values from the memory and summing the read values;*
- *calculating a first mode checksum by subtracting values written in a predetermined area of the memory from the first checksum;*
- *initializing a second checksum to be zero if the first mode checksum does not meet a predetermined condition;*
- *calculating a second mode checksum by inverting the second checksum and adding the inverted second checksum to the first mode checksum; and*
- *writing the inverted second checksum value in the predetermined area of the memory, if the second mode checksum is equal3 to the second checksum.*

It is not clear how first mode checksum is calculated since the claim makes no mention of writing the first checksum to the memory in the previous step. It only mentions to calculate the first checksum by reading and summing the values from the memory.

Also, it is unclear if the values mentioned for calculating the first mode checksum are same values mentioned for calculating the first checksum.

The claim does not make clear what values are being subtracted. The Examiner would like to point out that claim does not mention what value(s) is being subtracted from what value(s).

The claim states to “initialize a second checksum to be zero if the first mode checksum does not meet a predetermined condition” and makes to mention on what if the predetermined condition is not met. In other words what happens to the process if the predetermined condition is not satisfied. Does the system crash? Does it retry? The claim is vague and indefinite.

Similarly, the claim states to “write the inverted checksum value...if the second mode checksum is equal to the second checksum” and does not indicate what happens if the second mode checksum is **not** equal to the second checksum. The claim is vague and indefinite.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear how the second checksum can be increased by one to calculate the second mode checksum and then increased again by 1 to calculated the second mode checksum if they are not equal. The claim language is vague and indefinite.

In lines 2-3, the claim states, “...the increasing of the second checksum by one...” is making reference to the first indication of the increasing but makes no sense in the way it is written. The claim language is vague and indefinite.

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 11-21 depend from independent claim 10 and inherently include limitations there in and are rejected as well.

Claim 10 recites:

An apparatus for checking a checksum, comprising:

- *a memory that stores a predetermined program and a checksum;*
- *a microcomputer that performs the program stored in the memory, reads the checksum stored in the memory, inverts the checksum read from the memory, and outputs the inverted checksum; and*
- *a checksum calculator that calculates and writes the checksum into the memory by: calculating a first checksum by reading values from the memory and summing the read values, calculating a first mode checksum by subtracting values written in a predetermined area of the memory from the first checksum, initializing a second checksum to be zero if the first mode checksum does not meet a predetermined condition, calculating a second mode checksum by inverting the second checksum and adding the inverted second checksum to the first mode checksum; and*
- *if the second mode checksum is equal to the second checksum, writing the inverted second checksum value in the predetermined area of the memory.*

It is not clear how first mode checksum is calculated since the claim makes no mention of writing the first checksum to the memory in the previous step. It only mentions to calculate the first checksum by reading and summing the values from the memory.

Also, it is unclear if the values mentioned for calculating the first mode checksum are same values mentioned for calculating the first checksum.

The claim does not make clear what values are being subtracted. The Examiner would like to point out that claim does not mention what value(s) is being subtracted from what value(s).

The claim states to “initialize a second checksum to be zero if the first mode checksum does not meet a predetermined condition” and makes to mention on what if the predetermined condition is not met. In other words what happens to the process if the predetermined condition is not satisfied. The claim is vague and indefinite.

Similarly, the claim states to “write the inverted checksum value...if the second mode checksum is equal to the second checksum” and does not indicate what happens if the second mode checksum is **not** equal to the second checksum. The claim is vague and indefinite.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear how the second checksum can be increased by one to calculate the second mode checksum and then increased again by 1 to calculated the second mode checksum if they are not equal. The claim language is vague and indefinite.

In lines 2-3, the claim states, “...the increasing of the second checksum by one...” is making reference to the first indication of the increasing but makes no sense in the way it is written. The claim language is vague and indefinite.

Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 23 depend from independent claim 22 and inherently include limitations there in and are rejected as well.

Art Unit: 2133

Claim 22 recites:

A computer readable medium on which a program for implementing a method of calculating and writing a checksum in a memory is stored, wherein the method comprises:

- *calculating a first checksum by reading values from the memory and summing the read values;*
- *calculating a first mode checksum by subtracting values written in a predetermined area of the memory from the first checksum; and*
- *initializing a second checksum to be zero if the first mode checksum does not meet a predetermined condition;*
- *calculating a second mode checksum by inverting the second checksum and adding the inverted second checksum to the first mode checksum; and*
- *writing the inverted second checksum value in the predetermined area of the memory, if the second mode checksum is equal to the second checksum.*

It is not clear how first mode checksum is calculated since the claim makes no mention of writing the first checksum to the memory in the previous step. It only mentions to calculate the first checksum by reading and summing the values from the memory.

Also, it is unclear if the values mentioned for calculating the first mode checksum are same values mentioned for calculating the first checksum.

The claim does not make clear what values are being subtracted. The Examiner would like to point out that claim does not mention what value(s) is being subtracted from what value(s).

The claim states to “initialize a second checksum to be zero if the first mode checksum does not meet a predetermined condition” and makes to mention on what if the predetermined condition is not met. In other words what happens to the process if the predetermined condition is not satisfied. The claim is vague and indefinite.

Similarly, the claim states to “write the inverted checksum value...if the second mode checksum is equal to the second checksum” and does not indicate what happens if the second mode checksum is **not** equal to the second checksum. The claim is vague and indefinite.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 1 is rejected as being directed to non-statutory subject matter.

Claim 1 recites:

A method of calculating and writing a checksum in a memory, comprising:

- *calculating a first checksum by reading values from the memory and summing the read values;*
- *calculating a first mode checksum by subtracting values written in a predetermined area of the memory from the first checksum;*
- *initializing a second checksum to be zero if the first mode checksum does not meet a predetermined condition;*
- *calculating a second mode checksum by inverting the second checksum and adding the inverted second checksum to the first mode checksum; and*
- ***writing the inverted second checksum value in the predetermined area of the memory, if the second mode checksum is equal to the second checksum.***

The claim language recites conditional language that raises a question as to whether the method would be statutory when the condition is met and when it is not met. It is the end result of the process that is analyzed in order to determine if the claimed process yields a useful, concrete and tangible result. See MPEP 2106.

The claim makes no mention to what happens if the second mode checksum is not equal to the second checksum. The end result of the process is writing the inverted second checksum

value in the predetermined area of the memory, if the condition (second mode checksum = second checksum) is met. Hence the writing step makes the result of the process tangible only when the condition is met. In the case when the condition is not met (i.e., second mode checksum **not equal to** second checksum), it appears that the end result would be the previous step, “...calculating a second mode checksum by inverting the second checksum and adding the inverted second checksum to the first mode checksum...” which may be useful and concrete but not tangible since the calculated checksum value is not recited as being used in a disclosed practical application or at least made available for use for some form of conveyance (i.e., stored in memory). Therefore, claim as recited is not statutory under 35 USC 101.

Claim 2 is rejected as being directed to non-statutory subject matter.

In the same line of reasoning with claim 1, claim 2 only further limits claim 1 by stating to, “repeating the calculating of the second mode checksum...if the second mode checksum is **not the same as the second checksum.**” Although, claim 2 provides an additional process in the case when condition of claim 1 is not met (second mode checksum = second checksum), it does not make the end result tangible because the calculated checksum value is not recited as being used in a disclosed practical application or at least made available for use for some form of conveyance (i.e., stored in memory). Therefore, claim as recited is not statutory under 35 USC 101. See MPEP 2106.

Claims 3-7 and 9 are rejected as being directed to non-statutory subject matter.

Art Unit: 2133

Although claims 3-7 and 9 further limit claim 1, they do not cure the problem stated above. Nor do claims 3-7 and 9 impact the end result of claim 1 for usefulness, concrete and tangible is purposes.

Claim 8 is *not* rejected as being directed to non-statutory subject matter.

The Examiner would like to point out that claim 8 (if incorporated into claim 1) would make claim 1 statutory under 35 USC 101. Claim 8 further limits claim 1 by, “...selectively displaying at least one of the first checksum, the first mode checksum, the second checksum, and the second mode checksum on a display that is external to the memory.” In other words, claim 8 makes the end result tangible by displaying the calculation of the previous step in claim 1, when the end condition of claim 1 is not met (i.e., second mode checksum = second checksum).

Claim 10 is rejected as being directed to non-statutory subject matter.

Claim 10 recites:

An apparatus for checking a checksum, comprising:

- *a memory that stores a predetermined program and a checksum;*
- *a microcomputer that performs the program stored in the memory, reads the checksum stored in the memory, inverts the checksum read from the memory, and outputs the inverted checksum; and*
- *a checksum calculator that calculates and writes the checksum into the memory by: calculating a first checksum by reading values from the memory and summing the read values, calculating a first mode checksum by subtracting values written in a predetermined area of the memory from the first checksum, initializing a second checksum to be zero if the first mode checksum does not meet a predetermined condition, calculating a second mode checksum by inverting the second checksum and adding the inverted second checksum to the first mode checksum; and*
- *if the second mode checksum is equal to the second checksum, writing the inverted second checksum value in the predetermined area of the memory.*

The claim language recites conditional language that raises a question as to whether the method would be statutory when the condition is met and when it is not met. It is the end result of the process that is analyzed in order to determine if the claimed process yields a useful, concrete and tangible result. See MPEP 2106.

The claim makes no mention to what happens if the second mode checksum is not equal to the second checksum. The end result of the process is writing the inverted second checksum value in the predetermined area of the memory, if the condition (second mode checksum = second checksum) is met. Hence the writing step makes the result of the process tangible only when the condition is met. In the case when the condition is not met (i.e., second mode checksum **not equal to** second checksum), it appears that the end result would be the previous step, “...calculating a second mode checksum by inverting the second checksum and adding the inverted second checksum to the first mode checksum...” which may be useful and concrete but not tangible since the calculated checksum value is not recited as being used in a disclosed practical application or at least made available for use for some form of conveyance (i.e., stored in memory). Therefore, claim as recited is not statutory under 35 USC 101.

Claim 11 is rejected as being directed to non-statutory subject matter.

In the same line of reasoning with claim 10, claim 11 only further limits claim 10 by stating to, “...repeats the calculating of the second mode checksum...if the second mode checksum is **not the same as the second checksum.**” Although, claim 11 provides an additional process in the case when condition of claim 10 is not met (second mode checksum = second checksum), it

does not make the end result tangible because the calculated checksum value is not recited as being used in a disclosed practical application or at least made available for use for some form of conveyance (i.e., stored in memory). Therefore, claim as recited is not statutory under 35 USC 101. See MPEP 2106.

Claims 12-15 and 19-21 are rejected as being directed to non-statutory subject matter.

Although claims 12-15 and 19-21 further limit claim 10, they do not cure the problem stated above. Nor do claims 12-15 and 19-21 impact the end result of claim 10 for usefulness, concrete and tangible is purposes.

Claims 16-18 are *not* rejected as being directed to non-statutory subject matter.

The Examiner would like to point out that any of claims 16-18 (if incorporated into claim 10) would make claim 10 statutory under 35 USC 101. Claims 16-18 further limit claim 10 by, “...a **display to selectively display at least one of the first checksum, the first mode checksum, the second checksum, the second mode checksum and the inverted second mode checksum...**”

In other words, claims 16-18 make the end result tangible by displaying the calculation of the previous step in claim 10, when the end condition of claim 10 is not met (i.e., second mode checksum = second checksum).

Claim 22 is rejected as being directed to non-statutory subject matter.

Claim 22 recites:

A computer readable medium on which a program for implementing a method of calculating and writing a checksum in a memory is stored, wherein the method

Art Unit: 2133

comprises:

- *calculating a first checksum by reading values from the memory and summing the read values;*
- *calculating a first mode checksum by subtracting values written in a predetermined area of the memory from the first checksum; and*
- *initializing a second checksum to be zero if the first mode checksum does not meet a predetermined condition;*
- *calculating a second mode checksum by inverting the second checksum and adding the inverted second checksum to the first mode checksum; and*
- *writing the inverted second checksum value in the predetermined area of the memory, if the second mode checksum is equal to the second checksum.*

Firstly, the claim recites, "...computer readable medium..." which is defined in the specification (paragraphs 23 and 24, quoted below) as carrier wave. It is not clear if Applicant intended "computer readable medium", "computer readable recording medium" and "computer readable recording media" to be all the same. Assuming that they are all the same, it is clear that a "computer readable medium" may be a "carrier wave" which is not statutory under 35 USC 101. Applicant may overcome this by replacing "computer readable medium" with "CD-ROM" or the like.

The present invention may be embodied as a **computer code**, which can be read by a computer, on a **computer readable recording medium**. The computer readable recording medium includes **all manner and types of recording apparatuses on which computer readable data are stored**.

The **computer readable recording media** includes at least storage media such as magnetic storage media (e.g., ROM's, floppy disks, hard disks, etc.), optically readable media (e.g., CD-ROMs, DVDs, etc.), and **carrier waves** (e.g., transmissions over the Internet). Also, the computer readable recording media can be distributed to computer systems connected through a network and can be stored and executed as a computer readable code in a distributed mode.

Secondly, the claim recites "...a program **for** implementing..." and thus does not recite the execution actually being performed. A program *for* doing something and actually using the

Art Unit: 2133

program to do it is not the same. It implies the program could potentially perform the method.

Applicant may overcome this by removing “for” in the claim.

Thirdly, the claim language recites conditional language that raises a question as to whether the method would be statutory when the condition is met and when it is not met. It is the end result of the process that is analyzed in order to determine if the claimed process yields a useful, concrete and tangible result. See MPEP 2106.

The claim makes no mention to what happens if the second mode checksum is not equal to the second checksum. The end result of the process is writing the inverted second checksum value in the predetermined area of the memory, if the condition (second mode checksum = second checksum) is met. Hence the writing step makes the result of the process tangible only when the condition is met. In the case when the condition is not met (i.e., second mode checksum **not equal to** second checksum), it appears that the end result would be the previous step, “...*calculating a second mode checksum by inverting the second checksum and adding the inverted second checksum to the first mode checksum...*” which may be useful and concrete but not tangible since the calculated checksum value is not recited as being used in a disclosed practical application or at least made available for use for some form of conveyance (i.e., stored in memory). Therefore, claim as recited is not statutory under 35 USC 101.

Claim 23 is rejected as being directed to non-statutory subject matter.

Claim 23 recites:

Art Unit: 2133

*The computer readable medium of claim 22, wherein the **computer readable media** is distributed to a **computer system** connected through a network and is stored and executed as a **computer readable code** in a distributed mode.*

The Examiner would like to point out that since claim 23 depends from claim 22 and does not rectify the issues under 35 USC 101 for claim 22, the same rejections and reasoning applies.

Firstly, the claim recites, "...computer readable medium..." which is defined in the specification (paragraphs 23 and 24, quoted below) as carrier wave. It is not clear if Applicant intended "computer readable medium", "computer readable recording medium" and "computer readable recording media" to be all the same. Assuming that they are all the same, it is clear that a "computer readable medium" may be a "carrier wave" which is not statutory under 35 USC 101. Applicant may overcome this by replacing "computer readable medium" with "CD-ROM" or the like.

Secondly, the claim depends from claim 22, which recites "...a program **for** implementing..." and thus does not recite the execution actually being performed. A program *for* doing something and actually using the program to do it is not the same. It implies the program could potentially perform the method. Applicant may overcome this by removing "for" in the claim.

Thirdly, the claim language of claim 22 recites conditional language that raises a question as to whether the method would be statutory when the condition is met and when it is not met. It is the end result of the process that is analyzed in order to determine if the claimed process yields a useful, concrete and tangible result. See MPEP 2106.

Art Unit: 2133

The claim makes no mention to what happens if the second mode checksum is not equal to the second checksum. The end result of the process is writing the inverted second checksum value in the predetermined area of the memory, if the condition (second mode checksum = second checksum) is met. Hence the writing step makes the result of the process tangible only when the condition is met. In the case when the condition is not met (i.e., second mode checksum **not equal to** second checksum), it appears that the end result would be the previous step, “...*calculating a second mode checksum by inverting the second checksum and adding the inverted second checksum to the first mode checksum...*” which may be useful and concrete but not tangible since the calculated checksum value is not recited as being used in a disclosed practical application or at least made available for use for some form of conveyance (i.e., stored in memory). Therefore, claim as recited is not statutory under 35 USC 101.


Conclusion

Upon receiving a response from the Applicant, including claim amendments, the Examiner reserves the right to perform another search and reject the claims on prior art if applicable. Relevant art has been cited herein, however not applicable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mujtaba K. Chaudry whose telephone number is 571-272-3817. The examiner can normally be reached on Mon-Thur 9-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on 571-272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Mujtaba Chaudry
Art Unit 2133
November 21, 2006